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LIMBACH & LIMBACH L.L.P.  
 2001 Ferry Building, San Francisco, CA 94111  
 415/433-4150

Address to:

Box Patent Application  
 Assistant Commissioner for Patents  
 Washington, D.C. 20231

Attorney's Docket No. SONY-U0148First Named Inventor YUKA SAKAZUME

UTILITY PATENT APPLICATION TRANSMITTAL  
 ( under 37 CFR 1.53(b) )

SIR:

Transmitted herewith for filing is the patent application entitled:  
 COMMUNICATION SYSTEM AND COMMUNICATION METHOD SHARING COMMUNICATION  
 DATA AMONG A PLURALITY OF COMMUNICATION TERMINALS

CERTIFICATION UNDER 37 CFR § 1.10

I hereby certify that this New Application and the documents referred to as enclosed herein are being  
 deposited with the United States Postal Service on this date September 5, 2000, in an envelope bearing  
 "Express Mail Post Office To Addressee" Mailing Label Number EL254113213US addressed to: Box  
 Patent Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

Susan Ozanne

(Name of person mailing paper)

(Signature)

Enclosed are:

1. X Transmittal Form (two copies required)
2. The papers required for filing date under CFR § 1.53(b):
  - i. 33 Pages of specification (including claims and abstract);
  - ii. 7 Sheets of drawings.
 

X formal      \_\_\_ informal
3. Declaration or oath
  - a. X Newly executed (original or copy) Combined with Power of Attorney

ACCOMPANYING APPLICATION PARTS

4. x An assignment of the invention to Sony Corporation is attached (including Form PTO-1595).
  - i. \_\_\_ 37 CFR 3.73(b) Statement (when there is an assignee)
5. x Power of Attorney (Combined with Declaration)
6. \_\_\_ An Information Disclosure Statement (IDS) is enclosed, including a PTO-1449 and copies of \_\_\_ references.
7. \_\_\_ Preliminary Amendment.
8. X Return Receipt Postcard (MPEP 503 -- should be specifically itemized)
9. FOREIGN PRIORITY
  - (x) Priority of application no. P11-275715 filed on September 29, 1999 in Japan is claimed under 35 USC 119.

The certified copy of the priority application:

- X is filed herewith; or  
 \_\_\_ has been filed in prior application no. \_\_\_ filed on \_\_, or  
 \_\_\_ will be provided.

\_\_\_ English Translation Document (if applicable)

## 10. FEE CALCULATION

- a.
- ☐
- Amendment changing number of claims or deleting multiple dependencies is enclosed.

## CLAIMS AS FILED

	Number Filed	Number Extra	Rate	Basic Fee (\$690)
Total Claims	12 - 20	* 0	x \$18.00	0
Independent Claims	4 - 3	* 1	x \$78.00	78.00
Multiple dependent claim(s), if any			\$260.00	0

\*If less than zero, enter "0".

Filing Fee Calculation ..... \$768.00

50% Filing Fee Reduction (if applicable) ..... \$

## 11. Small Entity Status

- a. ☐ A small entity statement is enclosed.  
 b. ☐ A small entity statement was filed in the prior nonprovisional application and such status is still proper and desired.  
 c. ☐ is no longer claimed.

## 12. Other Fees

- ☒ Recording Assignment [\$40.00] ..... \$40.00  
☐ Other fees ..... \$0  
 Specify .....

Total Fees Enclosed ..... \$808.00

## 13. Payment of Fees

- ☒ Check(s) in the amount of \$ 808.00 enclosed.  
☐ Charge Account No. 12-1420 in the amount of \$ \_\_\_\_.  
A duplicate of this transmittal is attached.

## 14. All correspondence regarding this application should be forwarded to the undersigned attorney:

Charles P. Sammut  
 Limbach & Limbach L.L.P.  
 2001 Ferry Building  
 San Francisco, CA 94111  
 Telephone: 415/433-4150  
 Facsimile: 415/433-8716

## 15. Authorization to Charge Additional Fees

- ☒ The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication and which may be required under 37 CFR § 1.16 or § 1.17 to Account No. 12-1420. A duplicate of this transmittal is attached.

LIMBACH &amp; LIMBACH L.L.P.

September 5, 2000  
 (Date)

Attorney Docket No. SONY-U0148  
 [SOOP1148US00]

By: 

Charles P. Sammut  
 Registration No. 28,901  
 Attorney(s) or Agent(s) for Applicant(s)

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**COMMUNICATION SYSTEM AND COMMUNICATION METHOD  
SHARING COMMUNICATION DATA AMONG A PLURALITY OF  
COMMUNICATION TERMINALS**

5 BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a communication system and a communication method, in particular, to a communication system and a communication method in which  
10 a phone number which is commonly used only among communication terminals of a specific group consisting of members registered in a network is secured and a message can be transmitted/received at an arbitrary point in time.

2. Description of Related Art

15 Conventionally, only one phone number has been assigned for a communication terminal (or a communication line). Therefore, in a case of communication with a plurality of people, one must know respective phone numbers of communication terminals of all the target  
20 destinations and carry out individual communication for each destination even if the communication contents are the same.

As a prior art technique related to this field, numerous patent applications in relation with a sound  
25 multiplex system for teleconference have been filed.

In addition, including Magic-Box of NTT (Nippon Telegraph and Telephone Corporation), techniques to execute a function of an answering machine are known to public.

30 Further, the Internet technology, which a provider relays is also known to public.

By the way, conventionally, it has been necessary to know phone numbers of the communication terminals of all of communication destinations for communicating with a plurality of people, which makes the management of the phone numbers of the communication destinations  
5     troublesome.

In addition, it brings a problem that the labor and time required for communication with individual persons become enormous.

10     Furthermore, in a case where a subscriber of a network possesses and manage a plurality of communication terminals, the subscriber owns a plurality of phone numbers, each number corresponding to each of the plurality of communication terminals, which causes  
15     management the phone numbers terrible.

According to the technique of the above-described sound multiplex system for teleconference, all the members should participate in the communication at the same time, and it is not possible for a member to  
20     transmit a message to another member and to receive a message from another member to him/her at an arbitrary point time.

In addition, according to the Magic-Box of NTT (Nippon Telegraph and Telephone Corporation), a function  
25     of an answering machine of a local line is merely provided externally and the problem of complexity on management due to one-to-one correspondence between a communication terminal (telephone) and a phone number is not solved.

30     Furthermore, according to the Internet technology, it is necessary to set up a personal computer and to

contract with an Internet service provider in addition to have a communication terminal (telephone). Even in a bulletin board function, confidentiality only among the members cannot be always guaranteed.

5

#### SUMMARY OF THE INVENTION

The present invention has been made in view of the above described problems in the conventional communication system, and an object of the present  
10 invention is to provide a communication system which is capable of securing a phone number which is common only among communication terminals of specified members, which have been registered in a network, and transmitting/receiving a message at an arbitrary point of  
15 time.

Another object of the present invention is to provide a communication method which is capable of securing a phone number which is common only among communication terminals of specified members, which have  
20 been registered in a network, and transmitting/receiving a message at an arbitrary point of time.

According to the present invention, in order to solve the above-mentioned problem, there is provided a communication system in which a plurality of  
25 communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, which comprises a  
30 phone number management unit, a message management unit and a bulletin board unit provided in said network; means

for registering a predetermined communication terminal so as to correspond to the issued common phone number by sending an identification name of the predetermined communication terminals of the plurality of communication terminals to the phone number management unit in correspondence with the common phone number issued from the management terminal; means for sending a message file sent by accessing from a registered communication terminal to the common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in the message management unit when a second mode in which any registered communication terminal accesses to the message management unit to receive the message file is selected; means for leaving a message sent by accessing from a registered communication terminal to the common phone number on the bulletin board unit; and means for reading at any time the message file left in the message management unit, in a case where the message file is left in the message management unit, and the message left on the bulletin board unit, in a case where the message is left on the bulletin board unit, from an arbitrary one of the other registered communication terminals.

Furthermore, there is provided a communication system in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal

being a management terminal, which comprises a phone number management unit, a message management unit and a bulletin board unit provided in said network; means for registering, after being accessed by an arbitrary one of the plurality of communication terminals using the issued common phone number and receiving a confirmation by the management terminal, the arbitrary one of the communication terminals in correspondence with the common phone number issued from the management terminal; means for sending a message file sent by accessing from a registered communication terminal to the common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in the message management unit when a second mode in which any registered communication terminal accesses to the message management unit to receive the message file is selected; means for leaving a message sent by accessing from a registered communication terminals to the common phone number on the bulletin board unit; and means for reading at any time the message file left in the message management unit, in a case where the message file is left in the message management unit, and the message left on the bulletin board, in a case where the message is left on the bulletin board unit, from an arbitrary one of the other registered communication terminals.

Furthermore, there is provided a communication method in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually

communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, in which the network is provided with a phone number management unit, a message management unit and a bulletin board unit, and the method comprises the steps of: registering a predetermined communication terminal so as to correspond to the issued common phone number by sending an identification name of the predetermined communication terminal of the plurality of communication terminals to the phone number management unit in correspondence with the common phone number issued from the management terminal; sending a message file sent by accessing from a registered communication terminal to the common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in the message management unit when a second mode in which any registered communication terminal accesses to the message management unit to receive the message file is selected; leaving a message sent by accessing from a registered communication terminals to the common phone number on the bulletin board unit; and reading at any time the message file left in the message management unit or the message left on the bulletin board unit from an arbitrary one of the registered communication terminal.

Furthermore, there is provided a communication method in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually



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communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, in which the network is provided with a phone number management unit, a message management unit and a bulletin board unit, and the method comprises the steps of: registering, after being accessed by an arbitrary one of the plurality of communication terminals using the issued common phone number and receiving a confirmation by the management terminal, the arbitrary one of the other communication terminals in correspondence with the common phone number issued from the management terminal; sending a message file sent by accessing from a registered communication terminal to the common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in the message management unit when a second mode in which any registered communication terminal accesses to the message management unit to receive the message file is selected; leaving a message sent by accessing from a registered communication terminals to the common phone number on the bulletin board unit; and reading at any time the message file left in the message management unit, in a case where the message file is left in the message management unit, and the message left on the bulletin board unit, in a case where the message is left on the bulletin board unit, from an arbitrary one of the other registered communication terminals.

30 That is, the present invention provides means for mutually transmitting communication data between members

networked with a common phone number issued by a management terminal in a network including a Public Switched Network in a category thereof. Therefore, in the network, a phone number management center which  
5 manages members registered in correspondence with the common phone number issued from the management terminal is provided as well as a message center and a bulletin board which are accessed through the common phone number and can store the communication data therein.

10 There are two modes for registering members, one in which a prescribed member is designated upon issuing the common phone number from the management terminal, and the other in which one of unspecified number of users inside the network is added as a member with agreement at the  
15 management terminal when the user accesses the common phone number.

The user who accesses the common phone number is determined whether or not he/she is a registered member by the phone number management center. Communication  
20 data stored in the message center or the bulletin board can be taken out using any registered communication at times.

In a case where the communication data is a message file, different from a case of a message, the message  
25 file itself or a notice informing that the message file arrives at the message center is delivered to all of the registered communication terminal.

In a case where the communication data is a message, the message is left on the bulletin board and the members  
30 access the bulletin board to read the message.

Here, both the "message file" and the "message"

consist of any of voice data, image data and text data or a combination thereof. The "message file" can be directly transmitted. In a case where a "message file" left in the message center consists of voice data, one can hear the "message file" and in another case of the "message file" consisting of image data and text data, one can download the "message file". However, in any case, the "message file" cannot be seen or read through a display screen. On the other hand, the "message" left on the bulletin board can be seen, read and heard through a display screen in a condition that the "message" is on the bulletin board. In addition, it is also possible to download the "message" if one instructs through the display screen to download the "message".

15

#### BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the present invention will become more apparent and more readily appreciated from the following detailed description of the presently preferred exemplary embodiments of the present invention taken in conjunction with the accompanying drawings of which:

Fig. 1 is a block diagram showing a configuration of a communication system and a mechanism of registering members according to a first embodiment of the present invention;

Fig. 2 is a block diagram showing a mechanism of message transfer in the communication system according to the first embodiment of the present invention;

Fig. 3 is a block diagram showing a mechanism of a bulletin board function of the communication system

according to the first embodiment of the present invention;

Fig. 4 is a block diagram showing a configuration of a communication system and a mechanism of registering members according to a second embodiment of the present invention;

Fig. 5 is a block diagram showing a mechanism of message transfer in the communication system according to the second embodiment of the present invention;

Fig. 6 is a block diagram showing a mechanism of a bulletin board function of the communication system according to the second embodiment of the present invention; and

Fig. 7 is a flowchart showing an operation of exchange processing on a network of the communication systems according to the first and second embodiments of the present invention.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Now, preferred embodiments of the present invention will be described in reference to the accompanied drawings.

##### (First Embodiment)

Fig. 1 is a configuration of a communication system according to a first embodiment of the present invention and a mechanism of registering members thereof.

The communication system according to the present embodiment includes a network having a Public Switched Network in a category; a communication terminal A being a contractant of a community, which is connected to the network 1; communication terminals B, C, D which are to

be registered as members; and a connecting phone number management center 2.

Each of the communication terminals connected to the network has an identification name. The  
5 identification name may be a telephone number, an E-mail address and some kind of identification number, assigned to each of the communication terminals. In a case where the communication terminal is capable of using a medium, the identification name may be some kind of  
10 identification number assigned to the medium.

Now, an operation of registering members in the communication system according to the present embodiment will be described.

At Step S1, the communication terminal A designates  
15 the other members (in this case, the communication terminals B, C, D) of a specific community to be constructed now, and issues a "connecting ID". The "connecting ID" is, in specific, a "connecting phone number", which is common among registered members in a  
20 community. The communication terminal A transfers data with regard to the members of the specific community to be constructed and the issued "connecting ID" (that is, the "issued connecting phone number") to the connecting phone number management center 2.

25 Once the "connecting ID", that is, the connecting phone number, is issued, a confirmation on accepting the connecting phone number is sent to the designated communication terminals B, C, D from the connecting phone number management center 2, at Step S2.

30 At Step S3, if the designated communication terminal agrees to accept the connecting phone number, a

user of the communication terminal in agreement becomes an official member of the specific community, and then, the connecting phone number management center 2 registers a phone number (or an ID) of the communication terminal in agreement in correspondence with the connecting phone number and officially delivers the connecting phone number to the communication terminal in agreement at Step S4.

The communication terminal A being a management terminal can generate a qualified community in line with a "connecting ID" delivery method with the above-described operation.

In addition, it is possible to set a charge rate at the time of issuing the connecting phone number in the mechanism of registering members shown in Fig. 1.

It is also possible to change the charge rate among the members at a later time.

Furthermore, it is possible to set a discounted course, which provides a discounted charge of the connecting phone number as shown in Table 1 below, in return to an advertising announcement at the time of use or posting an advertisement on a bulletin board described later.

25

Table 1

CONNECTING ID	COMMUNICATION TERMINAL A	COMMUNICATION TERMINAL B	COMMUNICATION TERMINAL C	COMMUNICATION TERMINAL D
XXXX	20%	20%	20%	20%
XXXX	100%	0%	0%	0%
XXXX	60%	10%	10%	20%

Fig. 2 is a block diagram showing a mechanism of message transfer of the communication system according to a first embodiment of the present invention.

In Fig. 2, there is exemplified a case where a user of the communication terminal A being the management terminal sends a message file to all members of the specific community.

An operation of the message transfer of the communication system according to the present invention will now be described.

First, at Step A1, the communication terminal A being the management terminal tries, as a sender, to access to the delivered connecting phone number XXXX. A message center 3 attached to the network 1 confirms that the communication terminal A is a registered member of the connecting phone number XXXX to allow the communication terminal A to access to the connecting phone number. After the access is allowed, the user of the communication terminal A selects any one of a first mode in which a message file to be transferred is directly sent to the other members and a second mode in which a registered member accesses to the message center 3 to receive the message file to be transferred. Next, the communication terminal A sends a message file consisting of voice information, character information, image information and the like.

At Step A2, the message file sent to the message center 3 is stored in a memory in the message center 3.

At Step A3, in a case where the communication terminal A selects the first mode in which the message file to be transferred is directly sent to the other

members, the message center 3 directly sends the message file to the communication terminals registered to the connecting phone number XXXX other than the communication terminal being the sender (in this case, the communication terminal A). On another case where the communication terminal A selects the second mode in which the other member accesses the message center 3, the message center 3 sends only a notice that the message file has arrived to the communication terminals registered to the connecting phone number XXXX other than the communication terminal being the sender (in this case, the communication terminal A).

At step A4, when a member registered to the connecting phone number XXXX receives the notice and accesses the message center at an arbitrary point of time, the registered member can read or hear the message file from the communication terminal A.

According to the message transfer method shown in Fig. 2, it is possible to send a message file from a specific sender to a plurality of members at a time. Furthermore, among the registered members, it is possible to communicate with a registered member using the above-described message transfer method, even if a sender does not know a phone number of the registered member.

In addition, it is possible to prevent leakage of individual phone numbers since only the connecting phone number remains in the memory of the communication terminals in the message center 3.

Fig. 3 is a block diagram showing a mechanism of a bulletin board function of the communication system according to the first embodiment of the present



invention.

Fig. 3 shows a case where a message from the user of the communication terminal A being the management terminal to all members of the specific community is stored in a bulletin board 31 for the connecting phone number XXXX in the message center 3.

An operation for realizing the bulletin board function of the communication system of the present embodiment will now be described.

10 First, at Step B1, the communication terminal B which is registered to the connecting phone number XXXX accesses the connecting phone number in a message mode. A connecting phone number management center 2 attached to the network 1 allows the communication terminal B to  
15 access the connecting phone number XXXX since the communication terminal B is a registered communication terminal registered to the connecting phone number XXXX. Next, the communication terminal B leaves a message consisting of voice information, character information,  
20 image information and the like.

Accordingly, at Step B2, the message is stored on the bulletin board 31 for the connecting phone number XXXX, and at Step B3, the message center 3 notifies the communication terminal registered to the connecting phone  
25 number XXXX except for the sender (in this case, the communication terminal B) that a new message is now on the bulletin board 31 for the connecting phone number XXXX.

At Step B4, when a user of a communication terminal  
30 registered to the connecting phone number XXXX receives the notice and accesses to the bulletin board 31 of the

connecting phone number, the user of the registered communication terminal can read or hear the new message from the communication terminal A.

As another method for accessing the bulletin board  
5 31 of the connecting phone number XXXX, it is also possible to select a mode in which the message is taken out from the bulletin board 31 after the communication terminal connects to the connecting phone number XXXX.

According to the method illustrated in Fig. 3, all  
10 members can have a look at the logs among the members already registered to date at a time. Accordingly, there is no need to remember the other members' phone numbers and call one another among the registered members. In addition, since no one but the users of the registered  
15 communication terminals can access the connecting phone number XXXX, security for the message on the bulletin board is guaranteed.

Similar to the function shown in Fig. 2, every member can communicate with the other members independent  
20 from the phone number peculiar to each member.

Furthermore, a user who possesses a plurality of communication terminals can have an advantage to reduce bothersome management of the phone numbers of the plurality of communication terminals.

25 Exchange operation on the network 1 of the communication system according to the present embodiment will be described later.

(Second Embodiment)

30 Fig. 4 is a block diagram showing a configuration of a communication system and a mechanism of registering

members according to a second embodiment of the present invention.

The configuration of the network side of the communication system of the present embodiment is the same as that of the communication system of the first embodiment.

However, in the communication system of the present embodiment, an unspecified number of communication terminals (in this case, communication terminals H, J, R), which do not surely plan to be registered as members at the beginning, are included as the communication terminals (except the communication terminal A) connected to the network 1 including a Public Switched Network in a category.

In Fig. 4, only the three communication terminals H, J, R are illustrated as the communication terminals other than the communication terminal A. However, according to the present embodiment, the number of candidate communication terminals to be registered as members in accordance with the issuance of the connecting phone number is not limited generally.

An operation of registering members in the communication system according to the present embodiment will now be described.

First, at step C1, a contractant (communication terminal A) contracts in a condition of unlimited number of registrants and issue a connecting phone number XXXX. More specifically, the contractant (the communication terminal A) sends only the connecting phone number XXXX to the connecting phone number management center 2.

At Step C2, a user (unregistered user) who wishes

to register as a member accesses the connecting phone number XXXX using the communication terminal H of his/her own.

At Step C3, the contractant communication terminal  
5 A being a management terminal determines whether or not the accessing communication terminal H is to be registered.

If the communication terminal A agrees to the registration of the accessing communication terminal H at  
10 Step C4, the connecting phone number 2 officially issues the connecting phone number XXXX to the accessing communication terminal H at Step C5.

According to the above-described method of registering members, it is possible to add unlimited  
15 number of members so that not only one small community but also a large communication world can be generated.

According to the method, a charging system can be a fixed price system in which a fixed price is set per person and this is a preferable charging system.

20 Fig. 5 is a block diagram showing a mechanism of a message transfer in the communication system according to the second embodiment of the present invention.

Fig. 5 shows a case where the user of the communication terminal A being the management terminal  
25 transfers a message file to all members of the specific community.

An operation of the message transfer in the communication system according to the present embodiment will now be described.

30 First, at Step D1, the user of the communication terminal A being the management terminal tries to access

the issued connecting phone number XXXX as a sender. The message center 3 attached to the network 1 confirms that the communication terminal A is a registered member of the connecting phone number XXXX so as to allow the communication terminal A to access the connecting phone number XXXX. After the access is allowed, the user of the communication terminal A selects either one of a first mode in which a message file to be transferred is directly sent to the other members and a second mode in which a registered member accesses to the message center 3 to receive the message file to be transferred. Next, the communication terminal A sends a message file consisting of voice information, character information, image information and the like.

At step D2, the message file sent to the message center 3 is stored in a memory on the message center 3.

At step D3, in a case where the communication terminal A selects the first mode in which the message file to be transferred is directly sent to the other members, the message center 3 directly sends the message file to the communication terminals registered to the connecting phone number XXXX other than the communication terminal being the sender (in this case, the communication terminal A). On another case where the communication terminal A selects the second mode in which the other member accesses the message center 3, the message center 3 sends only a notice that the message file has arrived to the communication terminals registered to the connecting phone number XXXX other than the communication terminal being the sender (in this case, the communication terminal A).

At step D4, when a member registered to the connecting phone number XXXX receives the notice and accesses the message center 3 at an arbitrary point of time, the registered member can read or hear the message  
5 file from the communication terminal A.

According to the message transfer method shown in Fig. 5, it is possible to send a message file from a specific sender to a plurality of members at a time. Furthermore, among the registered members, it is possible  
10 to communicate with a registered member using the above-described message transfer method, even if a sender does not know a phone number of the registered member.

In addition, it is possible to prevent leakage of individual phone numbers since only the connecting phone  
15 number remains in the memory of the communication terminals in the message center 3.

Fig. 6 is a block diagram showing a mechanism of a bulletin board function of the communication system according to the second embodiment of the present  
20 invention.

Fig. 6 shows a case where a message from the user of the communication terminal A being the management terminal to all members of the specific community is stored in a bulletin board 31 for the connecting phone  
25 number XXXX in the message center 3.

An operation for realizing the bulletin board function of the communication system of the present embodiment will now be described.

First, at Step E1, the communication terminal A  
30 which is registered to the connecting phone number XXXX accesses to the connecting phone number XXXX in a message

mode. A connecting phone number management center 2  
attached to the network 1 allows the communication  
terminal A to access the connecting phone number XXXX  
since the communication terminal A is a registered  
5 communication terminal registered to the connecting phone  
number XXXX. Next, the communication terminal A leaves a  
message consisting of voice information, character  
information, image information and the like. Accordingly,  
at Step E2, the message is stored on the bulletin board  
10 31 for the connecting phone number XXXX, and the message  
center 3 notifies the communication terminal registered  
to the connecting phone number XXXX except for the sender  
(in this case, the communication terminal A) that a new  
message is now on the bulletin board 31 for the  
15 connecting phone number XXXX.

At Step E3, when a user of a communication terminal  
registered to the connecting phone number XXXX receives  
the notice and accesses to the bulletin board 31 of the  
connecting phone number XXXX, the user of the registered  
20 communication terminal can read or hear the message file  
from the communication terminal A.

As another method for accessing the bulletin board  
31 of the connecting phone number XXXX, it is also  
possible to select a mode in which the message is taken  
25 out from the bulletin board 31 after the communication  
terminal connects to the connecting phone number XXXX.

According to the method illustrated in Fig. 6, all  
members can have a look at the logs among the members  
already registered to date at a time. Accordingly, there  
30 is no need to remember the other members' phone numbers  
and call one another among the registered members. In

addition, since no one but the users of the registered communication terminals can access the connecting phone number XXXX, security for the message on the bulletin board is guaranteed.

- 5        Similar to the function shown in Fig. 5, every member can communicate with the other members independent from the phone number peculiar to each member.

10        In addition, since a telephone number of a new registrant will not be notified to the other members but only to the contractant (the user of the communication terminal A), it is efficiently useful when one would like to communicate with the others without giving his/her own phone number.

- 15        Furthermore, a user who possesses a plurality of communication terminals can have an advantage to reduce bothersome management of the phone numbers of the plurality of communication terminals.

20        (CHARACTERISTIC FEATURES COMMON IN THE FIRST AND SECOND EMBODIMENTS)

Fig. 7 is a flow chart showing an exchange operation on the network 1 in the communication system according to the first and the second embodiments of the present invention.

- 25        When the connecting phone number XXXX is accessed by a communication terminal on the network 1, at Step F1, the connecting phone number management center 2 determines whether or not the accessing communication terminal is a communication terminal registered in  
30        correspondence to the connecting phone number XXXX, and in a case where the accessing communication terminal is a



registered one, it is allowed to access the connecting phone number XXXX. On the other hand, in a case where the accessing communication terminal is not the registered one, the process goes to the below-described

5 Step F2.

At Step F2, the connecting phone number management center 2 determines whether or not the connecting phone number XXXX is a connecting phone number which is allowed to have an unlimited number of communication terminals to be registered thereto. In a case where the connecting phone number XXXX is allowed to have an unlimited number of communication terminals registered thereto, the connecting phone number management center 2 sends a confirmation to the contractant (the management terminal of the community). In a case where the connecting phone number XXXX is not the one which is allowed to have an unlimited number of communication terminals to be registered thereto, the accessing communication terminal is refused to access the connecting phone number XXXX.

20 In the above description, the case where an ordinary communication terminal accesses the connecting phone number XXXX has been described. The same operation is applicable to a case where the message center 3 or the bulletin board 31 of the connecting phone number XXXX  
25 accesses the connecting phone number XXXX.

In addition, it is also possible to combine the connecting phone number management center 2 and the message center 3, which are described in each of the above-described embodiments.

30 Furthermore, it is also possible to incorporate the bulletin board 31 of the connecting phone number XXXX

into the message center 3.

As described above, according to the present invention, members to whom a connecting phone number is issued is registered in a network, and a connecting phone number management center for managing the registered members, a message center which keeps communication data between members and sends the communication data to the other members, and a bulletin board for posting messages of the members are provided. Accordingly, it is not always necessary to know the phone numbers of the communication terminals of all registered members and it is possible to use the connecting phone number which is common in the community.

In addition, with a single access to the connecting phone number, a message file or a message can be sent or notified to all the members so that the labor and time required for the communication is dramatically reduced.

Furthermore, one can send a message file to the other members and can take in a message file addressed to him/her at any time he/she likes.

It is also possible to set or change a charge rate for the connecting phone number at the time of or after of contract.

Additionally, there is no need for a new capital investment or a contract with an Internet provider, as in the case of using the Internet.

Although the invention has been described in its preferred form with a certain degree of particularity, obviously many changes and variations are possible therein. It is therefore to be understood that the present invention may be practiced otherwise than as

specifically described herein without departing from the scope and the sprit thereof.

005000-52255900

WHAT IS CLAIMED IS:

1. A communication system in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, comprising:

a phone number management unit, a message management unit and a bulletin board unit provided in said network,

means for registering a predetermined communication terminal so as to correspond to said issued common phone number by sending an identification name of the predetermined communication terminals of said plurality of communication terminals to said phone number management unit in correspondence with said common phone number issued from said management terminal;

means for sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in said message management unit and notifying the other registered communication terminals of arrival of the message file when a second mode in which any registered communication terminal accesses to said message management unit to receive the message file is selected;

means for leaving a message sent by accessing from a registered communication terminal to said common phone number on said bulletin board unit; and

means for reading at any time the message file left  
in said message management unit, in a case where the  
message file is left in said message management unit, and  
the message left on said bulletin board unit, in a case  
5 where the message is left on the unit, from an arbitrary  
one of the other registered communication terminals.

2. The communication system according to claim 1,  
wherein each of said communication terminals has an  
10 identification name which is any one of a telephone  
number, an E-mail address and an identification number  
assigned to each of said communication terminal and an  
identification number assigned to a medium in a case  
where the communication terminal is capable of using the  
15 medium.

3. The communication system according to claim 1,  
wherein said message file and said message contain one or  
more information mode selected from voice information,  
20 character information and image information, respectively.

4. A communication system in which a plurality of  
communication terminals, which are connected to a network  
including a Public Switched Network in a category thereof,  
25 mutually communicate through communication data addressed  
to a common phone number issued by a communication  
terminal being a management terminal, comprising:

a phone number management unit, a message  
management unit and a bulletin board unit provided in  
30 said network;

means for registering, after being accessed by an

arbitrary one of said plurality of communication terminals using said issued common phone number and receiving a confirmation by said management terminal, the arbitrary one of said communication terminals in  
5 correspondence with said common phone number issued from said management terminal;

means for sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals  
10 when a first mode in which the message file is to be directly sent to the other communication terminals is selected, and leaving the message file in said message management unit when a second mode in which any registered communication terminal accesses to said  
15 message management unit to receive the message file is selected;

means for leaving a message sent by accessing from a registered communication terminals to said common phone number on said bulletin board unit; and

20 means for reading at any time the message file left in said message management unit, in a case where the message file is left in said message management unit, and the message left on said bulletin board unit, in a case where the message is left on said bulletin board unit,  
25 from an arbitrary one of the other registered communication terminals.

5. The communication system according to claim 4, wherein each of said communication terminals has an  
30 identification name which is any one of a telephone number, an E-mail address and an identification number

assigned to each of said communication terminal and an identification number assigned to a medium in a case where the communication terminal is capable of using the medium.

5

6. The communication system according to claim 4, wherein said message file and said message contain one or more information mode selected from voice information, character information and image information, respectively.

10

7. A communication method in which a plurality of communication terminals, which are connected to a network including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, wherein:

said network is provided with a phone number management unit, a message management unit and a bulletin board unit, and

20

said method comprising the steps of:

registering a predetermined communication terminal so as to correspond to said issued common phone number by sending an identification name of the predetermined communication terminal of said plurality of communication terminals to said phone number management unit in correspondence with said common phone number issued from said management terminal;

25

sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals when a first mode in which the message file is to be directly

30

sent to the other communication terminals is selected,  
and leaving the message file in said message management  
unit and notifying the other registered communication  
terminals of arrival of the message file when a second  
5 mode in which any registered communication terminal  
accesses to said message management unit to receive the  
message file is selected;

leaving a message sent by accessing from a  
registered communication terminal to the common phone  
10 number on said bulletin board unit; and

reading at any time the message file left in said  
message management unit or the message left on said  
bulletin board unit from an arbitrary one of the  
registered communication terminals.

15

8. The communication method according to claim 7,  
wherein each of said communication terminals has an  
identification name which is any one of a telephone  
number, an E-mail address and an identification number  
20 assigned to each of said communication terminal and an  
identification number assigned to a medium in a case  
where the communication terminal is capable of using the  
medium.

25

9. The communication method according to claim 7,  
wherein said message file and said message contain one or  
more information mode selected from voice information,  
character information and image information, respectively.

30

10. A communication method in which a plurality of  
communication terminals, which are connected to a network



including a Public Switched Network in a category thereof, mutually communicate through communication data addressed to a common phone number issued by a communication terminal being a management terminal, wherein:

5       said network is provided with a phone number management unit, a message management unit and a bulletin board unit, and

          said method comprising the steps of:

          registering, after being accessed by an arbitrary  
10   one of said plurality of communication terminals using said issued common phone number and receiving a confirmation by said management terminal, the arbitrary one of said communication terminals in correspondence with said common phone number issued from said management  
15   terminal;

          sending a message file sent by accessing from a registered communication terminal to said common phone number to other registered communication terminals when a first mode in which the message file is to be directly  
20   sent to the other communication terminals is selected, and leaving the message file in said message management unit when a second mode in which any registered communication terminal accesses to said message management unit to receive the message file is selected;

25       leaving a message sent by accessing from a registered communication terminal to said common phone number on said bulletin board unit; and

          reading at any time the message file left in said message management unit, in a case where the message file  
30   is left in said message management unit and the message left on said bulletin board unit, in a case where the

message is left on said bulletin board unit, from an arbitrary one of the other registered communication terminals.

- 5 11. The communication method according to claim 10,  
wherein each of said communication terminals has an  
identification name which is any one of a telephone  
number, an E-mail address and an identification number  
assigned to each of said communication terminal and an  
10 identification number assigned to a medium in a case  
where the communication terminal is capable of using the  
medium.
12. The communication method according to claim 10,  
15 wherein said message file and said message contain one or  
more information mode selected from voice information,  
character information and image information, respectively.

# ABSTRACT OF THE DISCLOSURE

A common phone number which is used only among a specific group consisting of members registered in a network is ensured to enable transmitting/receiving a message file at an arbitrary point of time. A communication terminal A being a management terminal in a network 1 sends identification names of prescribed communication terminals B, C, D corresponding to an issued common phone number to a phone number management center 2 so as to register the communication terminals in correspondence with the common phone number. A message file sent from an arbitrary one of the communication terminals to the common phone number is sent to all the other registered communication terminals or left in a message center 3 and the arrival of the message file is notified to all the other registered communication terminals. A message sent from an arbitrary one of the communication terminals to the common phone number is left on a bulletin board 31. An arbitrary one of the registered communication terminals reads the message file left in the message center 3 or the message left on the bulletin board 31 at any time he/she wants.

FIG. 1

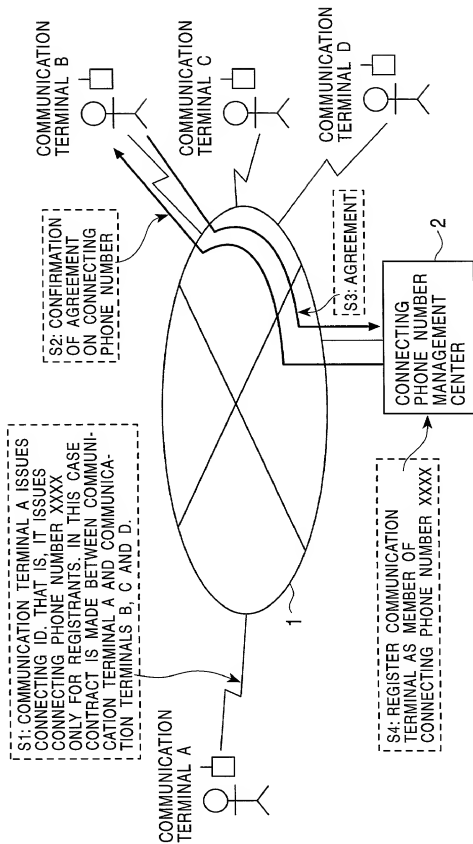


FIG. 2

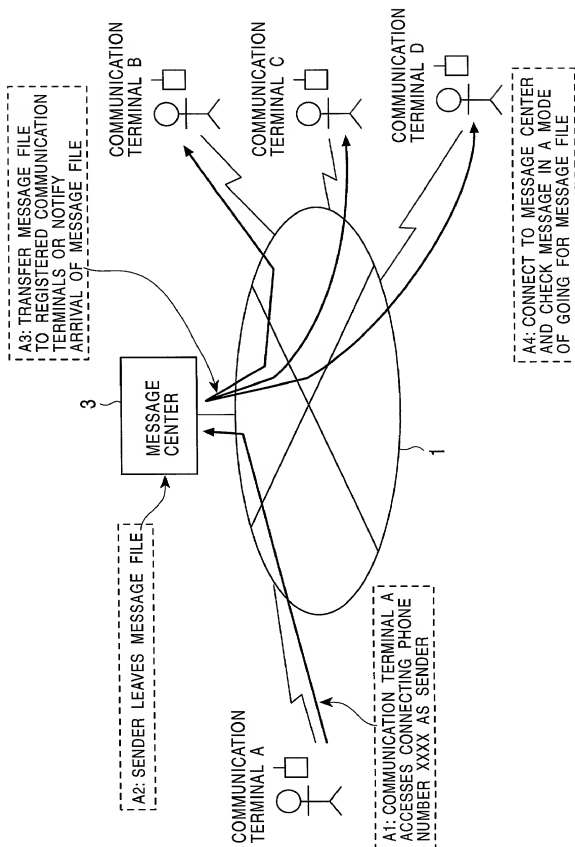


FIG. 3

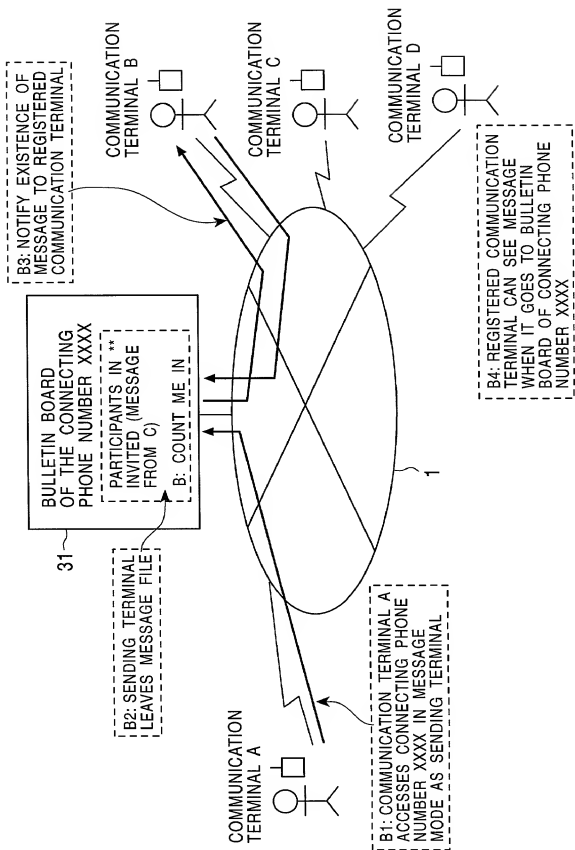


FIG. 4

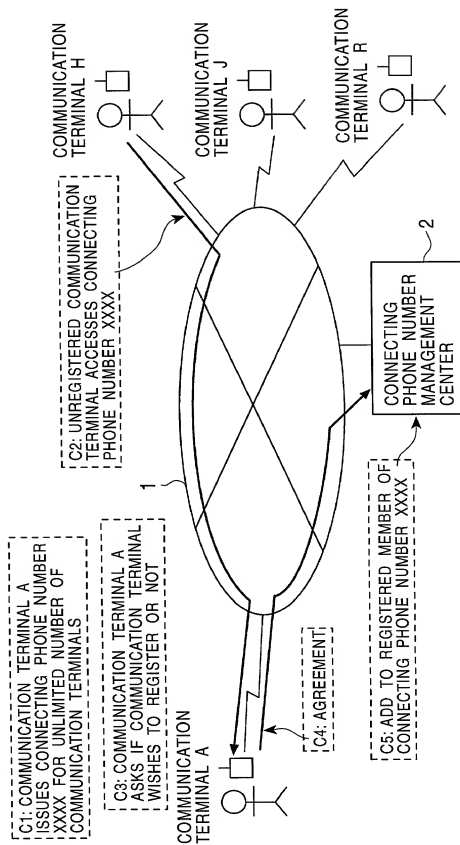


FIG. 5

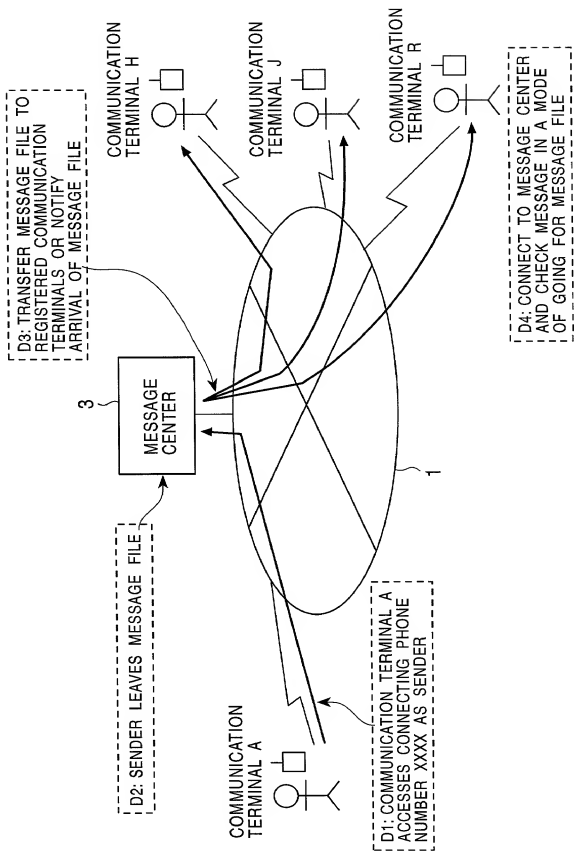




FIG. 6

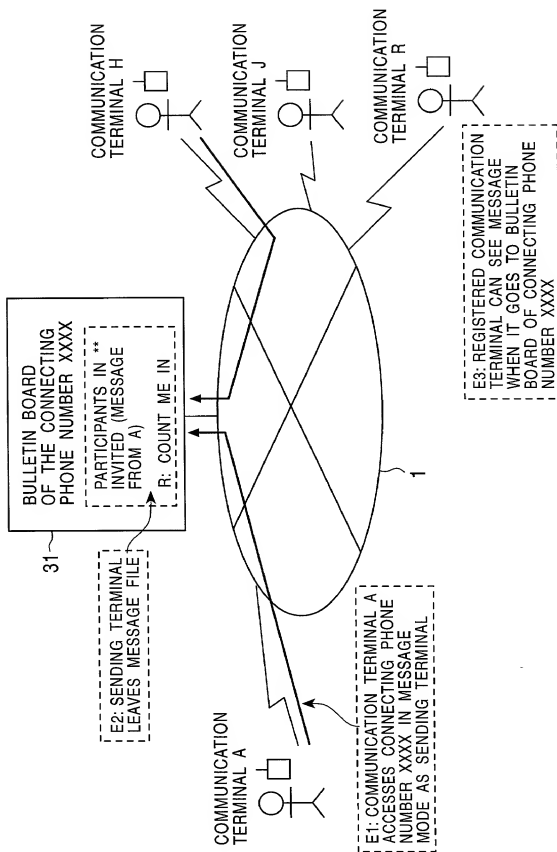
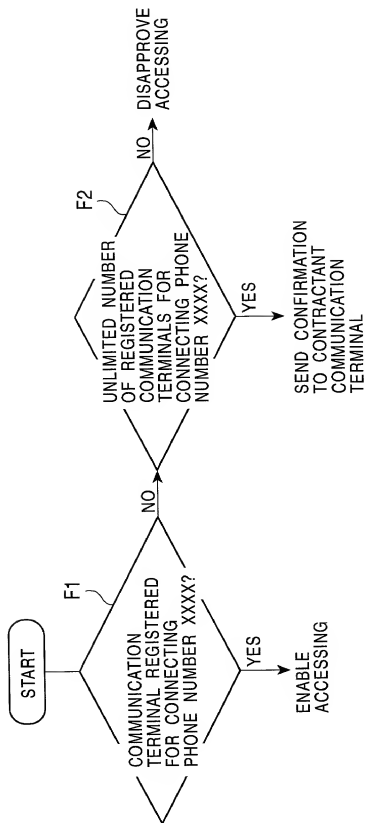


FIG. 7



## Declaration and Power of Attorney For Patent Application

## 特許出願宣言書及び委任状

## Japanese Language Declaration

## 日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。	As a below named inventor, I hereby declare that:
私の住所、私書簿、国籍は下記の私の氏名の後に記載された通りです。	My residence, post office address and citizenship are as stated next to my name.
下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者である（下記の名称が複数の場合）信じています。	I believe I am the original, first and sole inventor (if only one named is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled, COMMUNICATION SYSTEM AND COMMUNICATION METHOD SHARING COMMUNICATION DATA AMONG A PLURALITY OF COMMUNICATION TERMINALS
上記発明の明細書（下記の欄でx印がついていない場合は、本書に添付）は、 <input type="checkbox"/> 月 日に提出され、米国出願番号または特許協定条約国際出願番号を _____ とし、 （該当する場合） _____ に訂正されました。	the specification of which is attached hereto unless the following box is checked: <input type="checkbox"/> was filed on _____ as United States Application Number or PCT International Application Number _____ and was amended on _____ (if applicable).
私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。	I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.
私は、連邦規則法典第37編第1条56項に定義されるとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。	I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.
私は、米国法典第35編119条(a)-(d)項又は365条(b)項に基づき下記の、米国以外の国の少なくとも一カ国を指定している特許協力条約365(a)項に基づき国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。	I hereby claim foreign priority under Title 35, United States Code, Section 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

S00P1148US00

## Japanese Language Declaration

日本語宣言書

Prior Foreign Application(s) 外国での先行出願	Priority Not Claimed 優先権主張なし
P11-275715 (Number) (番号)  _____ (Number) (番号)	Japan (Country) (国名)  29/09/1999 (Day/Month/Year Filed) (出願年月日)  _____ (Day/Month/Year Filed) (出願年月日)
私は、第35編米国法典119条(e)項に基いて下記の米 国特許出願規定に記載された権利をここに主張いたします。  _____ (Application No.) (出願番号)	I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.  _____ (Filing Date) (出願日)
私は、下記の米国法典第35編120条に基いて下記の米 国特許出願に記載された権利、又は米国を指定している特許 協力条約365条(c)に基づき権利をここに主張します。また 、本出願の各請求範囲の内容が米国法典第35編112条 第1項又は特許協力条約で規定された方法で先行する米国特 許出願に開示されていない限り、その先行米国出願書提出日 以降で本出願書の日本国内または特許協力条約国際提出日ま での期間中に入手された、連邦規則法典第37編1条56項 で定義された特許資格の有無に関する重要な情報について開 示義務があることを認識しています。  _____ (Application No.) (出願番号)	I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.  _____ (Filing Date) (出願日)
_____ (Application No.) (出願番号)	_____ (Status: Patented, Pending, Abandoned) (現況: 特許許可済、係属中、放棄済)
_____ (Application No.) (出願番号)	_____ (Status: Patented, Pending, Abandoned) (現況: 特許許可済、係属中、放棄済)

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## Japanese Language Declaration

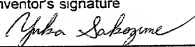
## 日本語宣言書

私は、私自身の知識に基づいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じているところに基づき、表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第18編第1001条に基づき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の声明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣言を致します。

I hereby declare that all statements made herein of my own knowledge and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may be jeopardize the validity of the application or any patent issued thereon.

0055225-000500

S00P1148US00

Japanese Language Declaration 日本語宣言書					
委任状: 私は下記の発明者として、本出願に関する一切の手続きを米特許商標局に対して遂行する弁理士または代理人として、下記の者を指名いたします。(弁理士、または代理人の氏名及び登録番号を明記のこと)			POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark office connected therewith (list name and registration number)		
Karl A. Limbach George C. Limbach John K. Ulkema Neil A. Smith Veronica C. Devitt Ronald L. Yin Gerald T. Sekimura Michael A. Stallman Philip A. Girard Michael J. Pollock	18,689 19,305 20,282 25,441 29,375 27,607 30,103 29,444 28,848 29,098	Steven M. Everett Alfred A. Equitz Charles P. Sammut Mark C. Pickering Patricia Coleman James Kathleen A. Frost Alan A. Limbach Douglas C. Limbach Seong-Kun Oh*	30,050 30,922 28,901 36,239 37,155 37,326 39,749 35,249	Cameron A. King Kyla L. Harrel Mayumi Maeda Michael R. Ward Roger S. Sampson Charles L. Hamilton Andrew V. Smith Eric N. Hoover J. Thomas McCarthy Joel G. Ackerman	41,897 41,815 40,075 38,551 44,314 42,524 43,132 37,355 22,420 24,307
書類送付先			Send Correspondence to:  Charles P. Sammut, Esq. Limbach & Limbach L.L.P. 2001 Ferry Building San Francisco, CA 94111-4262		
直接電話連絡先: (名前及び電話番号)			Direct Telephone Calls to: (name and telephone number)  Charles P. Sammut (415) 433-4150		
唯一または第一発明者名			Full name of sole or first inventor:  YUKA SAKAZUME		
発明者の署名	日付	Inventor's signature		Date	
				17/08/2000	
住所	Residence  KANAGAWA, JAPAN				
国籍	Citizenship  JAPANESE				
私書箱	Post Office Address  c/o SONY CORPORATION 7-35, Kitashinagawa 6-chome Shinagawa-ku, Tokyo, 141-0001 JAPAN				